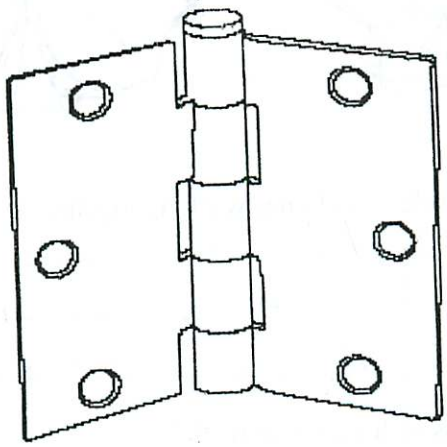
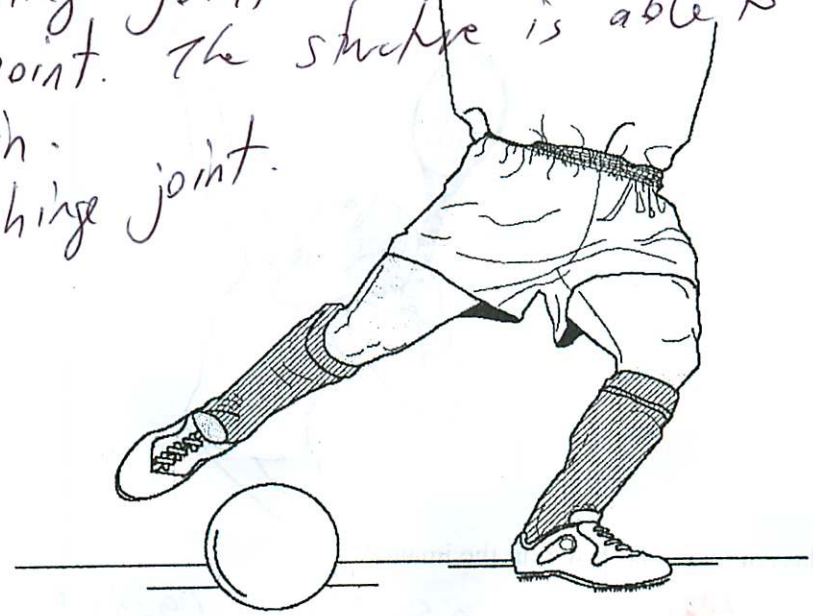
Answer Key
Mr. Joseph

Skeletal System



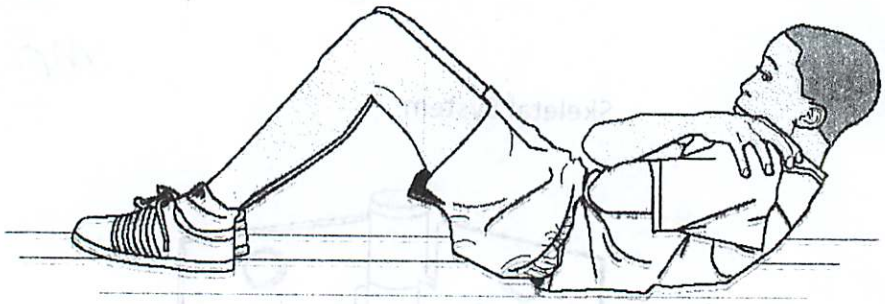
1. How is the object related to your skeletal system?

~~2 rigid plates are joined~~ This is a hinge joint. The shape is able to bend where together at a point. the plates join.
The knee is a hinge joint.



2. Describe how the muscles and bones in this soccer player are working together to move the soccer ball. How are levers involved in this action?

Muscles are attached to the bones of this soccer player. When the muscles shorten, or contract, they cause movement. Levers are involved because the leg kicking the ball is a 3rd-class lever. The knee is the fulcrum, the muscles in the upper leg & behind the knee provide the effort force, and the foot is the load.

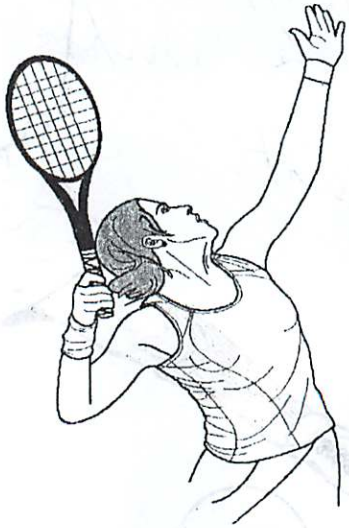


3. How are this boy's muscles and bones working together to produce movement?

Bones provide structure for muscles to contract & rela
some muscles straighten and others bend the bones, accor
to how they are connected to the bones.

4. In the image, what class of levers is at work?

Mostly 3rd-class levers.



5. What class of levers is shown in the image?

The action of using a tennis racket is a third-class

6. How does this human body lever work?

Effort force comes from contraction of muscle attached to bones

7. How would the motion shown in the image be different if the lever was replaced by a second-class lever?

Then the head of the racket would be
fulcrum, effort force applie
hand and arm muscles at the
handle of the tennis racket.

fulcrum = joint
load = object or body part being moved.

## Muscle Map

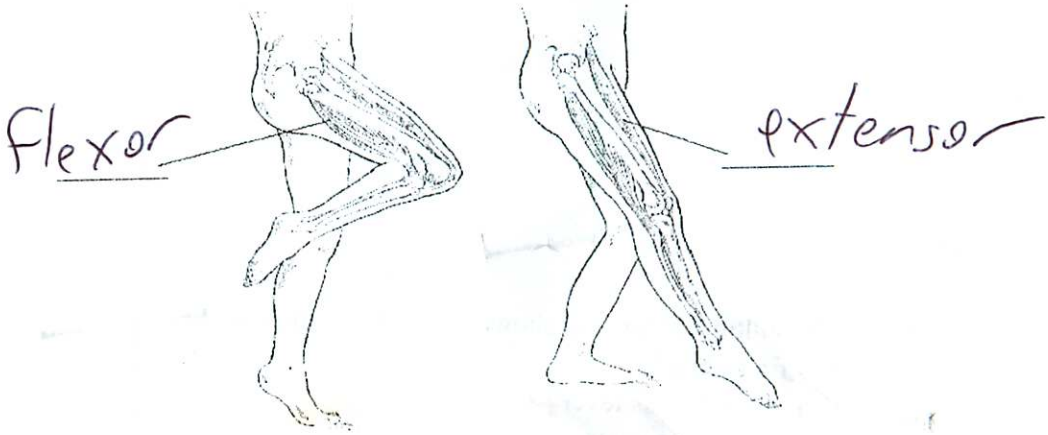
**Complete this worksheet after you finish reading the section "The Muscular System."**
Each of the boxes below is labeled with one of the three types of muscle tissue in your body. Write each note in the correct box. Some of the notes can be used more than once.

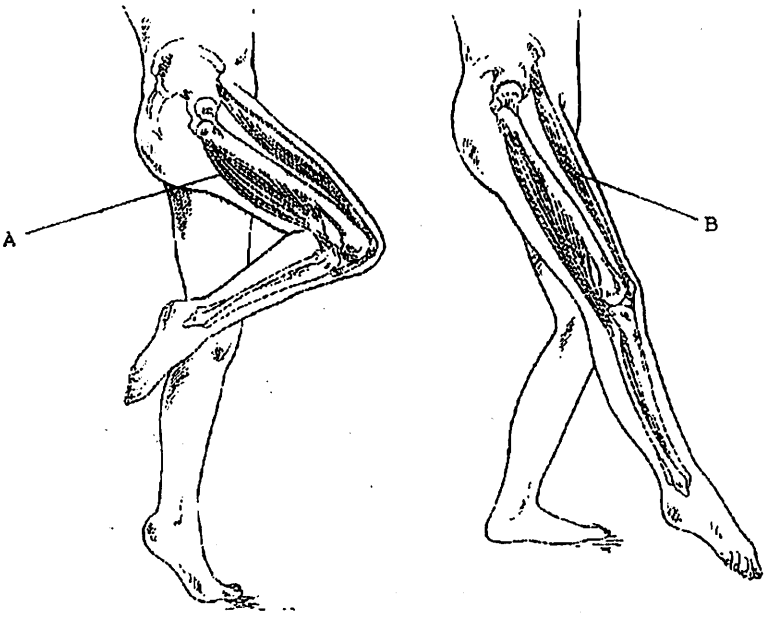
**Three Types of Muscle**

| Skeletal | Cardiac | Smooth |
|---|---|---|
| moves bones<br>involuntary<br>voluntary<br>often work in pairs | in the heart<br>involuntary<br>pumps blood | in blood vessels<br>in the digestive tract<br>moves food<br>involuntary |

- moves bones
- involuntary
- voluntary
- often work in pairs
- in the heart
- moves food
- pumps blood
- in blood vessels
- in the digestive tract

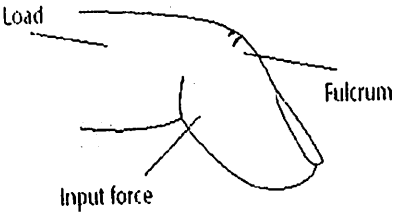
A flexor is a muscle that bends a part of your body when it contracts. An extensor is a muscle that extends a part of your body when it contracts. Label the flexor muscle and the extensor muscle on the diagram below.






8. The letter *A* points to a muscle that
   a. bends part of your body and is called an extensor muscle.
   b. bends part of your body and is called a flexor muscle.
   c. straightens part of your body and is called an extensor muscle.
   d. straightens part of your body and is called a flexor muscle.

9. The letter *B* points to a muscle that
   a. bends part of your body and is called an extensor muscle.
   b. bends part of your body and is called a flexor muscle.
   c. straightens part of your body and is called an extensor muscle.
   d. straightens part of your body and is called a flexor muscle.




10. What kind of lever is shown in the illustration above?
   A a first-class lever
   B a second-class lever
   C a third-class lever
   D a fourth-class lever